

What is Claimed Is:

1. A method of controlling an HVAC system having a heating unit and a cooling unit, the heating unit and the cooling unit configured to selectively operate in a relatively constant “on” state or an “off” state, the method comprising:

determining whether the humidity in an inside space is above a predetermined humidity threshold, and if so, operating both the heating unit and the cooling unit in their relatively constant “on” states.

2. The method of claim 1 wherein the step of operating both the heating unit and the cooling unit in their relatively constant “on” states is only performed if the temperature in the inside space is below a predetermined cooling set point.

3. The method of claim 2 wherein only the cooling unit is operated if the temperature in the inside space is above the predetermined cooling set point, regardless of the humidity in the inside space.

4. The method of claim 1 wherein the cooling unit includes two or more cooling stages, the method further comprising the steps of:

not operating both the heating unit and the cooling unit in their relatively constant “on” states if two or more cooling stages of the cooling unit are activated.

5. A method of controlling an HVAC system having a heating unit and a cooling unit, the heating unit and the cooling unit configured to selectively operate in a relatively constant “on” state or an “off” state, the method comprising:

operating the cooling unit to satisfy a call for cooling for the inside space; and
after the call for cooling has been satisfied, determining if the latent cooling demands have been met, and if not, operating both the heating unit and the cooling unit in their relatively constant “on” states.

6. A method according to claim 5, further comprising the steps of:
deactivating the heating unit and the cooling unit once the latent cooling demands have been satisfied.

7. A method according to claim 5, further comprising the steps of:
deactivating the heating unit while maintaining the cooling unit if a subsequent call for cooling is provided.

8. A method according to claim 5, further comprising the steps of:
deactivating the heating unit and the cooling unit of the latent cooling demand has been satisfied and there is no current call for cooling; and
deactivating the heating unit while maintaining the cooling unit if the latent cooling demand has not yet been satisfied but a subsequent call for cooling is provided.

9. A method of controlling an HVAC system having a heating unit and a cooling unit, wherein the heating unit and the cooling unit are configured to selectively operate in a relatively constant “on” state or an “off” state, the HVAC system configured to have a cooling set point temperature, the method comprising:

determining a temperature at a location within an inside space;

determining a humidity at a location within the inside space;

selecting a mode in which to operate the HVAC system from among the following operating modes depending on the determined temperature and/or humidity:

selecting an “off” mode if the humidity is below a predetermined humidity threshold and the temperature is below a temperature that is related to the cooling set point temperature, the “off” mode having the heating unit and the cooling unit both in their “off” states;

selecting a “cooling” mode if the temperature is above a temperature that is related to the cooling set point temperature, the “cooling” mode having the heating unit in its “off” state and the cooling unit in its relatively constant “on” state; and

selecting a “drying” mode if the humidity is above the predetermined humidity threshold and the temperature is below a temperature that is related to the cooling set point temperature, the “drying” mode having the heating unit and the cooling unit both in their relatively constant “on” states.

10. The method of claim 9 wherein the cooling unit includes a first cooling stage and a second cooling stage, the method further comprising the steps of:

predicting or determining whether the first stage of the cooling unit can provide adequate sensible cooling to the inside space; and

selecting the “off” mode if the humidity is below the predetermined humidity threshold and the temperature is below a temperature that is related to the cooling set point temperature;

selecting the “cooling” mode and activating only the first stage of the cooling unit if the humidity is below the predetermined humidity threshold and the temperature is above the temperature that is related to the cooling set point, and the predicting or determining step predicts or determines that the first stage can provide adequate sensible cooling for the inside space;

selecting the “cooling” mode and activating both the first stage and second stage of the cooling unit if the humidity is below the predetermined humidity threshold and the temperature is above the temperature that is related to the cooling set point, and the predicting or determining step predicts or determines that the first stage cannot provide adequate sensible cooling for the inside space;

selecting the “drying” mode and activating only the first stage of the cooling unit if the humidity is above the predetermined humidity threshold and the temperature is above the temperature that is related to the cooling set point.

11. The method of claim 10 further comprising the step of:

selecting the “cooling” mode and activating both the first stage and the second stage of the cooling unit if the humidity is above the predetermined humidity threshold and the temperature is above the temperature that is related to the cooling set point, and

the predicting or determining step predicts or determines that the first stage cannot provide adequate sensible cooling for the inside space.

12. In an HVAC system having a heating unit sized to heat an inside space under an expected heating load and a cooling unit sized to cool the inside space under an expected cooling load, the improvement comprising:

a controller adapted to determine whether the space is above a predetermined humidity threshold; and if so, operating both the heating unit and the cooling unit.

13. An HVAC system according to claim 12, wherein the controller is further adapted to determine if the temperature of the inside space is above a predetermined temperature, and if so, activating the cooling unit and not the heating unit, regardless of the humidity in the inside space.

14. An HVAC system according to claim 12, wherein the controller is adapted to operate both the heating unit and the cooling unit only if the temperature in the inside space is below a predetermined cooling set point.

15. An HVAC system according to claim 14, wherein the controller is adapted to operate the cooling unit and not the heating unit if the temperature in the inside space is above a predetermined cooling set point.

16. A method of updating an HVAC system having a heating unit sized to heat an inside space under an expected heating load, a cooling unit sized to cool the inside space under an expected cooling load, and a controller, the method comprising:

updating the controller to determining whether the humidity in the inside space is above a predetermined humidity level; and if so, operating both the heating unit and the cooling unit.

17. A method according to claim 16, wherein the updating step further updates the controller to determine whether the temperature of the inside space is above a predetermined temperature, and if so, only activating the cooling unit and not the heating unit, regardless of the humidity in the inside space.

18. A method according to claim 16, wherein the updating step further updates the controller to operate both the heating unit and the cooling unit only if the temperature in the inside space is below a predetermined cooling set point.

19. A computer-readable medium having stored thereon a computer program for controlling an HVAC system that services an inside space which, when executed by a controller, is capable of performing the following steps:

determining whether the humidity in the space is above a predetermined humidity level, and if so, activating both a heating unit and a cooling unit of the HVAC system.

20. A computer-readable medium according to claim 18, wherein the computer program when executed by the controller, is also capable of performing the follow step:

determine if the temperature of the inside space is above a predetermined temperature, and if so, activating only the cooling unit and not the heating unit.